

REMARKS

The Examiner's Office Action of March 20, 2003 has been received and its contents reviewed. Applicants would like to thank the Examiner for the consideration given to the above-identified application.

Claims 1-10, and 12-24 were pending in the present application. Claims 1-5 have been withdrawn from consideration in response to an election requirement, and claims 11 and 16-20 were canceled. By the above actions, claim 20 has been canceled. Accordingly, claims 6-10, and 12-15, and 21-24 are pending for consideration. In view of these actions and the following remarks, reconsideration of this application is now requested.

Referring now to the detailed Office Action, the drawings are objected to under 37 CFR 1.83(a) as the feature of "the implanting heavy ion is performed at an energy such that the range of the heavy ions implantation is within the second ions implanted layer formed in the third step" is not shown in the drawings. Further, claim 20 stands rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Particularly, the Examiner asserts that there is no written description for the feature of "wherein the second step of implanting heavy ions is performed at an energy such that range of the heavy ions implantation is within the second ions implanted layer formed in the third step". In response to the drawing objection and the §112, first paragraph, rejection, Applicants have cancelled claim 20, as shown above.

Claims 6, 8 and 13-15 stand rejected under the judicially created doctrine of obviousness-type double patenting as unpatentable over claims 1-19 of U.S. Patent No. 6,432,802. In response, Applicant is submitting herewith a Terminal Disclaimer.

Claims 6-10, 12-14 and 20-24 stand rejected under 35 U.S.C. § 103(a) as unpatentable over G.G. Shahidi et al., *High Performance Devices for a 0.15 μ m CMOS Technology* (hereafter Shahidi), in view of Burr (U.S. Patent No. 5,923,987 – hereafter Burr). Further, claim 15 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Shahidi and Burr, as applied to claim 6 above, and further in view of Tsukamoto (U.S. Patent No. 5,399,506 – hereafter Tsukamoto).

One of the novel features of claim 6 of the present invention resides in the pocket dopant diffused layer which includes, in a portion in contact with the extended high-concentration dopant diffused layer, a segregated part that has been formed through segregation of the heavy ions. An exemplary embodiment of claim 6 is shown in Fig. 1(b).

For the sake of facilitating the comparison of the presently claimed invention and that of Shahidi, Applicants have prepared the attached Fig. A and Fig. B. The attached Fig. A corresponds to Fig. 1(b) of the present application and shows the segregated part, which has been formed through segregation of the heavy ions, is provided in the portion “a” in contact with the extended high-concentration dopant diffused layer in the pocket dopant diffused layer.

With respect to the rejection of claim 6, the Examiner cited Shahidi as disclosing the feature “wherein the pocket dopant (In) diffused layer includes, in a portion in contact with the extend high-concentration dopant (As) diffused layer, a segregated part that has been formed through segregation of the heavy (In) ions (See pages 466-468).” However, according to Shahidi, as shown in the attached Fig. B, which corresponds to Fig. 1(b) in page 467 of Shahidi, the segregated part that has been formed through segregation of In is NOT provided in the portion “b” in contact with the extended high-concentration dopant diffused layer in the pocket dopant diffused layer.

Further, it appears that, similar to the In profile in Fig. 1(a) of Shahidi, the concentration of dopant being higher on the contact portion side than the surface side in the In profile in Fig. 1(b) of Shahidi indicates a peak concentration due to ion implantation. Hence, Applicants respectfully submit that Shahidi has been misinterpreted in the Office Action.

For the foregoing reasons, Shahidi fails to disclose Applicants’ claimed feature wherein the pocket dopant diffused layer includes, in a portion in contact with the extended high-concentration dopant diffused layer, a segregated part that has been formed through segregation of the heavy ions recited in claim 6 of the present invention. Therefore, the combination of Shahidi and Burr is insupportable.

The requirements for establishing a *prima facie* case of obviousness, as detailed in MPEP § 2143 - 2143.03 (pages 2100-122 - 2100-136), are: first, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally

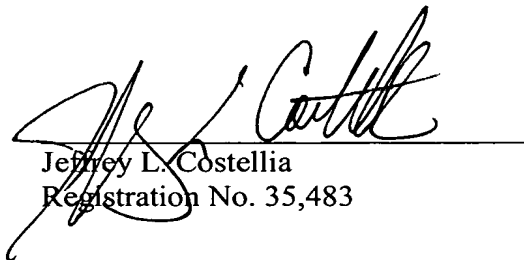
available to one of ordinary skill in the art, to modify the reference to combine the teachings; second, there must be a reasonable expectation of success; and, finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. As Shahidi and Burr are deficient, as discussed above, their combination is improper and a *prima facie* case of obviousness has not be established.

The arguments set forth above with respect to the sole independent claim 6 are also applicable to the rejections of the pending dependent claims. With respect to the rejections of claim 20, its cancellation has rendered its rejections moot.

In view of the amendments and arguments set forth above, Applicants respectfully requests reconsideration and withdrawal of the pending § 112, first paragraph, and the §103(a) rejections.

While the present application is now believed to be in condition for allowance, should the Examiner find some issue to remain unresolved, or should any new issues arise which could be eliminated through discussions with Applicants' representative, then the Examiner is invited to contact the undersigned by telephone in order that the further prosecution of this application can thereby be expedited.

Respectfully submitted,



Jeffrey L. Costellia
Registration No. 35,483

NIXON PEABODY LLP
8180 Greensboro Drive, Suite 800
McLean, VA 22102
(703) 770-9300

ATTACHMENT

FIG. A

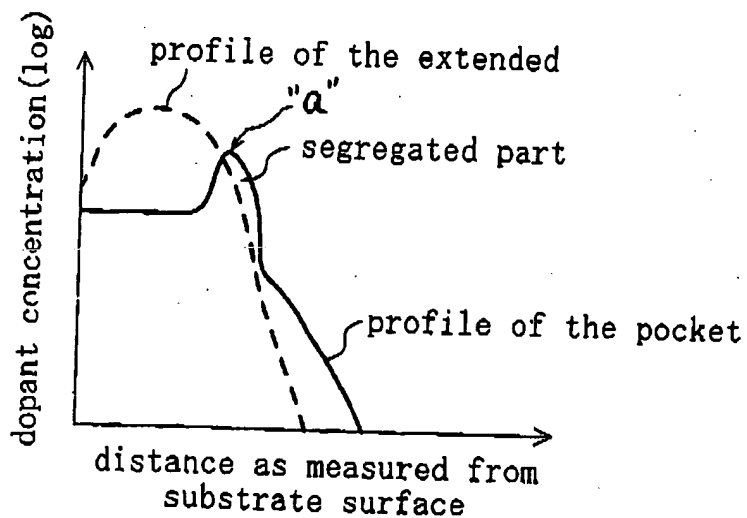


FIG. B

